

Appl. No. 09/695,645  
Amdt. dated March 19, 2007  
Reply to Office Action of December 11, 2006

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### Remarks

The present amendment responds to the Official Action dated December 11, 2006. A petition for a one month extension of time to respond and authorization to charge Deposit Account No. 50-1058 the large entity extension fee of \$120 accompany this amendment. The Official Action rejected claims 1, 4-6, 11, 12, 15-17, 21, 22, and 25-28 under 35 U.S.C. § 103(a) based on Krasner et al. U.S. Patent No. 6,298,098 (Krasner) in view of the DOCSIS standard. Claims 2, 3, 13, 14, 20, 23, and 24 were rejected under 35 U.S.C. § 103(a) based on Krasner in view of the DOCSIS standard and further in view of Wilson et al. U.S. Patent Application Publication 2001/0051512 (Wilson). Claims 7-10, 18, and 19 were rejected under 35 U.S.C. § 103(a) based on Krasner in view of the DOCSIS standard as applied to claims 1 and 2 and further in view of Tourtier et al. U.S. Patent No. 5,446,495 (Tourtier). These grounds of rejection are addressed below. Claims 1-28 are presently pending.

### The Art Rejections

As addressed in greater detail below, Krasner, Wilson, and Tourtier do not support the Official Action's reading of them and the rejections based thereupon should be reconsidered and withdrawn. Further, the Applicant does not acquiesce in the analysis of Krasner, Wilson, and Tourtier made by the Official Action and respectfully traverses the Official Action's analysis underlying its rejections.

Appl. No. 09/695,645  
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Rejection of claims 1, 4-6, 11, 12, 15-17, 21, 22, and 25-28

The Official Action rejects claim 1 based on Krasner in view of the data over cable service interface specification (DOCSIS) standard. The Official Action states that Krasner does not disclose "sub-channeling" and depends on the DOCSIS standard for support. The stated term "sub-channeling" is not used in any of the pending claims. In order to further prosecution, the present response interprets "sub-channeling" to mean that Krasner does not teach and does not make obvious "a down-converter configured to accept a data stream comprising samples of the upstream band of frequencies sampled at a rate of at least twice the frequency of the highest selected frequency in the band and utilizing the selected frequencies to convert each of the two or more non-overlapping channels within the upstream band of frequencies to baseband, the down-converter shifting the said non-overlapping channels to a common baseline center frequency and producing a down-converted output signal for each of the said non-overlapping channels" as presently claimed in claim 1.

Regarding DOCSIS, the DOCSIS standard describes requirements that must be met by a device to be in compliance with the standard. As discussed further below, the DOCSIS standard does not describe the down-converter presently claimed in claims 1, 25, or 26 or the method of down-converting as claimed in claim 12.

The Official Action suggests that it would have been obvious as a result of the DOCSIS sub-channeling requirement to equip Krasner's demodulator to be compliant with the DOCSIS standard. Krasner provides no indication how such compliance may be achieved and the DOCSIS standard does not specify how to comply. It is noted that demodulator 16 of Krasner's

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Fig. 3 and as shown in more detail in Figs. 4a and 4b employs only a single 10.752 MHz analog signal to be converted. Krasner is also silent concerning the structure and operation of the filter/downconverter/decimator 32 of the demodulator 16. In order to hypothetically meet the DOCSIS standard with Krasner as a guide, the apparatus of Krasner's Fig. 3 could be duplicated and tuned for each additional channel to be demodulated. Such an approach may have many problems as described in the background section of the present invention where "[u]pstream receivers typically devote a circuit board of electronics to each channel, and, within each circuit board, an analog to digital converter (ADC) to each channel. If any of those channels are unused, the associated ADC and ancillary circuitry [such as a down-converter for each channel] is, in effect, wasted." See, page 3, lines 3-6 of the present invention. DOCSIS provides no suggestion, reason or motivation to make specific modifications to the Krasner demodulator 16 or filter/downconverter/decimator 32. Further, if anything, Krasner's implementation for demodulation of a single channel, as illustrated in Figs. 3, 4a, and 4b, teaches away from the presently claimed invention. Krasner does not teach and does not make obvious a down-converter as presently claimed in claims 1, 25, or 26 or the method of down-converting as claimed in claim 12. DOCSIS does not cure the deficiencies of Krasner.

The dependent claims distinguish over the combined teachings of Krasner in view of DOCSIS by their dependence from their respective independent claims.

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Rejection of claims 2, 3, 13, 14, 20, 23, and 24

Dependent claims 2, 3, 13, 14, 20, 23, and 24 were rejected under 35 U.S.C. § 103(a) based on Krasner in view of the DOCSIS standard and further in view of Wilson. As addressed above Krasner does not teach and does not make obvious a down-converter as presently claimed in claim 1 or the method of down-converting as claimed in claim 12. Since claims 2, 3, and 23 and claims 13, 14, 20, and 24 depend from and contain all the limitations of base claims 1 and 12, respectively, claims 2, 3, 13, 14, 20, 23, and 24 distinguish from Krasner in the same manner as the base claims.

Additionally, the Official Action cites Wilson's Fig. 4, elements "Down Converters (1-8)" and Fig. 5, elements 507 as a plurality of downconverters purportedly described as "selectively configured to down convert to baseband channel signals the two or more non-overlapping upstream channels centered on the selected frequencies within the upstream band of frequencies in parallel." Wilson does not provide such down-conversion capabilities. Each of Wilson's plurality of down-converters receives a separate input signal and produces a single output signal. Wilson, Fig. 4 and Fig. 5. In contrast to Wilson, a down-converter, as claimed in claim 1 of the present invention, is "configured to accept a data stream comprising samples of the upstream band of frequencies sampled at a rate of at least twice the frequency of the highest selected frequency in the band". Further, as claimed in claim 1, the down-converter "producing a down-converted output signal for each of the said non-overlapping channel." For example, in Fig. 5 of the present invention, a single data stream 112 that comprises two or more non-overlapping channels is received by converter 500 that converts the two or more non-overlapping channels to

Appl. No. 09/695,645  
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baseband in parallel producing CH1, CH2, ... CHN. See Fig. 5 and page 11, lines 1-7 of the present invention. Wilson does not cure the deficiencies of Krasner.

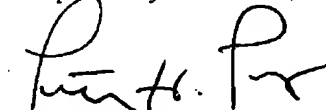
Rejection of Claims 7-10, 18, and 19

Dependent claims 7-10, 18, and 19 were rejected under 35 U.S.C. § 103(a) based on Krasner in view of the DOCSIS standard as applied to claims 1 and 2 and further in view of Tourtier. As addressed above Krasner does not teach and does not make obvious a down-converter as presently claimed in claim 1 or the method of down-converting as claimed in claim 12. Since claims 7-10 and claims 18 and 19 depend from and contain all the limitations of base claims 1 and 12, respectively, claims 7-10 and claims 18 and 19 distinguish from Krasner in the same manner as the base claims.

Conclusion

All of the presently pending claims appearing to define over the applied references, withdrawal of the present rejection and prompt allowance are requested.

Respectfully submitted,



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